

2172 \$
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jeffrey M. Stibel
Application No.: 09/419,005 Group No.: 2172
Filed: October 13, 1999 Examiner: Hwang, Joon H.
For: SEARCH ENGINE INTERFACE

RECEIVED

JAN 07 2004

Technology Center 2100

Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION—37 C.F.R. 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on September 30, 2003.
2. A request for a one month extension of time to December 30, 2003 is hereby requested.
2. STATUS OF APPLICANT

This application is on behalf of a large entity.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. 1.17(c), the fee for filing the Appeal Brief is:

1/06/2004 MAHMD1 00000022 141131 09419005

2 FC:1251 110.00 DA

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8(a))

I hereby certify that, on the date shown below, this correspondence is being:

MAILING



deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

FACSIMILE



transmitted by facsimile to the Patent and Trademark Office.

Signature

Hannah Martin

(name of person certifying)

Date: December 30, 2003

1/06/2004 MAHMD1 00000022 141131 09419005

13 FC:1403 290.00 DA

(Transmittal of Appeal Brief—page 1 of 2)

Appeal Brief fee due \$330.00
Extension of time \$110.00

4. Applicant hereby requests an oral hearing.

5. All fees incurred in this matter should be charged to deposit account no. 14-1131.

6. TOTAL FEE DUE

The total fee due is:

Appeal brief fee	\$ 330.00
Extension fee (if any)	\$ 110.00
Request for Oral Hearing	\$ 290.00
TOTAL FEE DUE	\$ 730.00

7. FEE PAYMENT

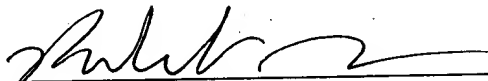
Charge Account No. 14-1131 the sum of \$ 730.00.
A duplicate of this transmittal is attached.

8. FEE DEFICIENCY

If any additional extension and/or fee is required, this is a request therefor and to charge Account No. 14-1131.

Date: Dec. 29
October 10, 2003

Tel. No.: (312) 236-0733


SIGNATURE OF PRACTITIONER
Robert P. Greenspoon - Reg # 40,004
Niro, Scavone, Haller & Niro
181 W. Madison-Suite 4600
Chicago, IL 60602

#29
WM



Attorney Docket No. 3545

IN THE BOARD OF PATENT APPEALS AND INTERFERENCES

RECEIVED

JAN 07 2004

Technology Center 2100

Applicant: Jeffrey M. Stibel)
Assignee: Search123.com, Inc.)
Serial No.: 09/419,005)
Filed: October 13, 1999)
Provisional Filed: June 24, 1999)
Provisional SN: 60/140,874)
For: Search Engine Interface)

Group Art Unit: 2172

Examiner: Hwang, Joon H.

Docket No. 3545

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

APPEAL BRIEF

01/06/2004 MAHMED1 00000022 141131 09419005
01 FC:1402 330.00 DA

TABLE OF CONTENTS

	<u>Page No.</u>
BRIEF ON APPEAL	1
1. INTRODUCTION	1
2. REAL PARTY IN INTEREST	1
3. RELATED APPEALS AND INTERFERENCES	1
4. STATUS OF CLAIMS	1
5. STATUS OF AMENDMENTS	2
6. SUMMARY OF INVENTION	2
7. STATEMENT OF THE ISSUES	4
8. GROUPING OF CLAIMS	4
9. ARGUMENT	6
A. Dharap	6
B. Miller	7
C. Ginsberg	9
D. Ryan	9
E. Obviousness Is Not Shown	10
i. Group 1, Weighted Expanded Queries	10
ii. Group 2, Weighted Expanded Queries With Multiple Search Engines	10
iii. Group 3, Control Flags	11
iv. There Is No <i>Prima Facie</i> Obviousness	11
F. Conclusion	12
INDEX FOR APPENDIX	13

BRIEF ON APPEAL

1. INTRODUCTION

This appeal is taken from the final rejection of Claims 1-13, 15-19 and 21-24 which are reproduced in the Appendix as Exhibit A – all of the claims now pending in the above-identified application. The final rejection was made in an Office Action mailed April 1, 2003 (Exhibit B). A timely Notice of Appeal to the Board of Patent Appeals and Interferences with a three month extension of time was filed in this case on September 30, 2003 (Exhibit C). This Appeal Brief is timely filed with a one-month extension on December 29, 2003.

2. REAL PARTY IN INTEREST

The real party in interest is Search123.com, Inc., which is a wholly owned subsidiary of ValueClick, Inc. (publicly traded under ticker symbol VCLK).

3. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellant relevant to these proceedings.

4. STATUS OF CLAIMS

Claims 1-13, 15-19 and 21-24 stand finally rejected as follows.

Claims 1, 5-6, 10-11, 15, 17-18 and 21-24 are finally rejected under 35 U.S.C. Section 103(a) based on Dharap (U.S. Patent No. 6,256,633) (Exhibit D) in view of Miller (U.S. Patent No. 5,926,811) (Exhibit E).

Claims 2-4, 7-9, 12, 13 and 16 are finally rejected under 35 U.S.C. Section 103(a) as unpatentable over Dharap in view of Miller and further in view of Ginsberg ("A unified approach to automatic indexing and information retrieval," IEEE, Oct. 1994, pages 46-56) (Exhibit F).

Finally, claim 19 is finally rejected under 35 U.S.C. Section 103(a) as unpatentable over Dharap in view of Miller and further in view of Ryan (U.S. Patent No. 6,421,675) (Exhibit G).

Claims 4 and 20 are no longer in the case, having been canceled.

This appeal is taken with respect to all twenty-two rejected claims, which are recited in Exhibit A in the Appendix.

5. **STATUS OF AMENDMENTS**

There are no pending amendments.

6. **SUMMARY OF INVENTION**

The invention relates to an improved search engine interface. More specifically, the application claims specific query expansion techniques missing in the prior art. While the invention has many aspects, those central to this appeal relate to (1) weighting, (2) multiple search engines and (3) flags.

Generic query expansion (without more) has long been known to those of skill in the art. Query expansion generally involves receiving a user's keyword phrase/search query, and then automatically adding additional terms or modifying existing terms before processing the expanded query to retrieve records. Dharap, cited by the Examiner, discloses basic query expansion which automatically adds additional related terms to a search request and then processes the expanded phrase to retrieve records. But, missing in Dharap (and the other art of record) is applicant's technique of expanding a query with ***weighted*** expansion terms.

Mr. Stibel's specification at 19-20 (Exhibit H) describes the "weighting" preferred embodiment, with an example, as follows:

In either embodiment, after the user has selected a meaning to be associated with the user query the Query engine 14 may then build an expanded search query by employing the related terms, depicted in Figure 3, to amend the user query to one more suited for identifying documents associated with the interests of the client. For example, if a user enters "java" as the user query and selects "coffee" as its meaning, the knowledgebase 16 will retrieve a number of related words (e.g., mocha, espresso) and append these words, along with the chosen meaning, to the original user query. Examples of such related terms are set forth in Table 2 below.

Table 2
Search Terms Generated by the Relational Knowledgebase for User Query "java"

java (required) coffee (meaning) cafe au lait cafe noir demitasse	decaffeinated coffee decaf espresso capuccino [sic] coffee capuccino [sic] iced coffee	ice coffee mocha Turkish coffee cafe royale beverage coffee royal Irish coffee
---	---	--

These related words provide additional keyphrases that may be added, such as by boolean logic operators or by other logical operators, to the keyphrases of the user query. For example, the original user query "java", can now be expanded to java + coffee + espresso(W1) + beverage(W2) + (NOT)programming. As expanded, the query now includes terms that are selected to increase the likelihood that an Internet search engine will return a meaningful hit list. To this end, the user query has been given new terms, including the word that represents the selected meaning, as well as a pari [sic:pair] of additional words, espresso [sic] and beverage, each of which is weighted, W1 and W2 respectively. The weighting can be employed to indicate how significant the word is to the search, as well as for sorting through the returned hits, to rank the returned search results. Additionally, it can be seen that the search string includes a NOT operator that indicates that the word "programming" should not appear within the documents returned by the search. Thus, these related words may also be used to prioritize the results, or alternatively eliminate irrelevant, or less relevant hits. This enables the system 10 to bring the more relevant hits to the first pages of search results that will be returned to the user, while still allowing users to navigate through to the less relevant hits. This can be accomplished without additional effort on the part of the user, and the resulting expanded query is a complex query that may be invisible to the user.

(Exhibit H at 19-20).

Hence, as shown in the description of the "weighting" preferred embodiment, the expanded terms of the search query may be given weights, such as W1 and W2 in the example "java + coffee + espresso(W1) + beverage(W2) + (NOT)programming." Such weights can be used "to indicate how significant the word is to the search, as well as for sorting through the returned hits, to rank the returned search results."

Other aspects of the preferred embodiment which are important to the issues on appeal are the processing of an expanded query through multiple search engines (Exhibit H at 20-21), and the use of flags as submembers of an expanded query (Exhibit H at 21).

7. STATEMENT OF ISSUES

The issues for resolution in this appeal are whether the obviousness rejections can stand, even though the prior art lacks:

- (1) amending ***weighted*** terms to a user search request in a ***weighted*** string;
- (2) generating a ***set*** of boolean search requests, and providing each to a respective preselected search engine; or
- (3) using ***flag signals*** in the expanded search request to identify a condition of use of words in the search string.

8. GROUPING OF CLAIMS

Applicant argues patentability in this appeal of three separate groups of claims.

Group 1 will be labeled the "Weighted Expanded Query" group, and includes claims 1-13 and 21-22.

Group 2 will be labeled the "Weighted Expanded Query With Multiple Search Engines" group, and includes claims 15-19 and 23-24.

Group 3 will be labeled the "Control Flag" group, and includes claim 19.

The text of representative claims 1, 15 and 19, with the claim language of interest emphasized, is as follows:

1. A process for aiding a user in developing a search request, comprising
presenting to the user an interface for collecting from the user a keyphrase
representative of a user search request,
analyzing said user search request to identify at least one meaning associated
with said user search request,
processing said user search request and said at least one meaning to
generate an expanded search request represented as a boolean search strategy,
**wherein the expanded search request includes related terms not defined or
chosen by the user, the related terms being amended to the user search
request and the one meaning in a weighted string;** and
providing said expanded search request to a search engine capable of
identifying information associated with said expanded search request.

15. A system for aiding a user in developing a search request, comprising
a linguistic knowledgebase having information representative of a list of sense
signals, each sense signal being information for describing a linguistic meaning, and a
**list of weighted and unweighted words, wherein weighted words are weighted
in relation to a potential query term;**
a controller for generating an interface for collecting from the user a keyphrase
representative of a user search request, and for employing said keyphrase to access
information from said linguistic knowledgebase to generate an expanded search
request, and
a query mechanism for processing said expanded search request to generate
**a set of boolean search requests, each associated with at least one preselected
search engine, wherein each of the boolean search requests corresponds to
the expanded search request; and for providing each said boolean search
request to a respective preselected search engine.**

19. A system according to claim 15, wherein said controller further includes means for accessing ***flag signals*** from said linguistic knowledgebase, wherein ***the flag signals are associated with a sense signal and identify a condition of use of words associated with that sense signal in the generation of the expanded search request.***

9. **ARGUMENT**

The final rejection is based on mistaken views of the technological content of the cited art. A correct view would have led the Examiner to find patentable differences from the claims.

A. Dharap

Dharap is the Examiner's primary reference. As mentioned, Dharap discloses basic query expansion.

The Examiner incorrectly suggests that the claimed weighting technique is disclosed in Dharap as well. The Examiner states, "Dharap discloses a weighted topical dictionary (lines 8-12 in col. 4)." (Exhibit B at 3). Inconsistently, the Examiner then admits, "Dharap is silent on unweighted word in the list, weighting words in relation to a query term, and a set of boolean search requests to a set of search engines." (Exhibit B at 4). Which is it?

The Examiner's second assertion is the correct one. The "weighted topical dictionary" mentioned in Dharap at lines 22-23, col. 4, relates to Dharap's ***post***-retrieval processing. Dharap explains what happens ***after*** submission of an expanded query as follows:

The results in this format are represented as ranked according to relevance, and the relative contribution fo each keyword to each specific result is indicated by a colored bar. The results of this query are also sent to an analyzer 110. Analyzer 110 generates a set of concept keywords based on these results. The generation algorithm uses, for example, the topical partitioning of the information space of base 102 and a weighted topical dictionary.

(Dharap, lines 8-23, col. 4). Consequently, Dharap does not suggest using weighted

terms in any respect **within** an expanded search query (as required by the claims). Instead, Dharap only involves its “weighted topical dictionary” after a query is submitted and results have been retrieved.

B. Miller

Miller is the Examiner’s main secondary reference. Miller discloses using a “statistical thesaurus” to improve the generation of expanded query terms. (Miller, Abstract).

Unlike both Dharap and Mr. Stibel’s embodiment, Miller does **not** automatically process an expanded query. Instead, in Miller, the initial query is processed without expansion. Then, Miller uses **the results** of the initial query to build a dynamic “statistical thesaurus” — a set of “terms that are related to the headword by their co-occurrence with the headword in text. This is in contrast to a traditional thesaurus whose terms, synonyms, are related to the headword by meaning.” (Miller, lines 21-25, col. 1).

Miller’s Figure 8 gives an example using the initial query “WHITEWATER.” Terms in the resulting “statistical thesaurus” include, for example, “tax return,” “Little Rock,” etc. Miller’s Figure 9 gives an example using the initial query “MURDER.” Terms in the resulting “statistical thesaurus” include, for example, “juror,” “guilt,” etc. Each such term is also assigned a “concept number” for user selectability.

Clearly evident in both Figures 8 and 9, Miller’s technique permits the user to select “concept numbers of interest and press ENTER” in order to present the expanded query to the system. Miller, then, discloses a two-step process: first, the initial query is processed (e.g., “MURDER”), and then after the user chooses a “concept number” (e.g., “15” in Figure 9 to select the term “juror”), the expanded query is built and processed (i.e., the expanded query is now “MURDER and JUROR”). See Miller, line 57 in col. 3 to line 8 in col. 4. There are no weights in the expanded query.

The Examiner mistakenly states that Miller discloses the claimed weighting technique. The final office action incorrectly states, “Miller discloses a weighted term,

which is associated with a concept or meaning (lines 21-25 in col. 1, lines 7-13 in col. 2, lines 37-52 in col. 4, and lines 25-32 in col. 5) for ranking data of results.” (Exhibit B at 3). The final office action also incorrectly states, “Miller discloses weighting words in relation to a query term (abstract, lines 21-25 in col. 1, lines 7-13 in col. 2, lines 37-52 in col. 4, and lines 25-32 in col. 5) for ranking search results based on relevancy.” (Exhibit B at 4). Miller does not disclose what the Examiner thinks.

The Examiner has mistakenly relied on an aspect of Miller unrelated to creation of an expanded query. Namely, in the process of building the “statistical thesaurus” (**after** the submission of an initial query but **before** the creation of an expanded query), the system disclosed in Miller ranks terms extracted from each source document of the initial query search results. See, e.g., Miller, cols. 4-7. These terms are placed in groups depending on importance, with Group 1 being most important and Group 5 least important. (Miller, lines 37-52 in col. 4). Such groupings are used to decide what potential terms to display to the user for creating an expanded query — the 25 or so expansion terms that can be selected by entering the “concept number.” (Miller, lines 12-67 in col. 6). As shown in Miller’s Figures 7-9, this process “dynamically builds the list of related terms for any combination of query terms.” (Miller, lines 1-4 in col. 7).

Miller’s only use of “weights” is during the process of deciding what expansion terms to display to the user. Critically, the expansion term the user ultimately selects is **not** weighted (e.g., the hypothetical expanded query “MURDER and JUROR” does not weight the term “JUROR”). Miller’s use of weights therefore has nothing to do with processing a weighted search string through a search engine. No part of the Miller disclosure teaches, or suggests, providing weighted terms to an expanded query as claimed.

The Examiner has also mistakenly applied another aspect of Miller to the limitation of claim 15 requiring submission of the expanded query through a plurality of search engines. The Examiner states, “Miller discloses boolean search requests to search engines for the parallel processing (lines 30-35 in col. 2, lines 63-67 in col. 3,

lines 1-37 in col. 4, lines 65-67 in col. 5, lines 1-12 in col. 6, fig. 5 and fig. 14)." (Exhibit B at 4). On the contrary, in the cited portions, Miller discloses use of parallel concurrently executed threads of a single computer program to aid the process of deciding what "related concepts" to display to the user. E.g., Miller, lines 30-32 in col. 4. Again, this has nothing to do with presentation of the expanded query to a search engine. Miller discloses that both the initial query (e.g., "MURDER") and the ultimate expanded query (e.g., "MURDER and JUROR") are processed through a single database at a time. E.g., Miller, lines 29-43 in col. 7.

C. Ginsberg

Ginsberg discloses a system for automatically indexing documents and retrieving the indexed documents. Detailed consideration of Ginsberg is not necessary to resolve the issues on appeal. That is because in light of the distinctions above, the claims which were rejected over the combination which includes Ginsberg are likewise allowable.

D. Ryan

Ryan relates to updating an Internet search engine database with the results of a user's selection of specific web page listings as a result of his initial keyword search entry. The Examiner only applies Ryan in the Dharap/Miller/Ryan combination asserted against claim 19.

The Examiner correctly observes that Ryan discloses a keyword eliminator feature to control the use of particular words in query generation. Namely, at lines 41-61 in col. 25, Ryan discloses "filtering" words from a query to prevent their submission to a search engine. Ryan contemplates this feature will be used for parental control, such as to prevent children from searching using adult-themed keywords.

The Examiner nonetheless is mistaken to assert this feature in Ryan relates to the additional dependent limitation of claim 19. Specifically, nothing in Ryan teaches, suggests or discloses flag signals which identify a condition of use of words in the generation of the expanded search request. In Mr. Stibel's embodiment (Exhibit H at

21), such flag signals help format expanded queries for the syntax of different search engines (e.g., Excite or Lycos). By contrast, Ryan simply discloses filtering an initial query through a table to prevent objectionable terms from going through the search engine at all.

E. Obviousness Is Not Shown

Since the Examiner apparently misunderstood the references, all of the rejections must be reversed for lack of findings supporting *prima facie* obviousness. See In re Robertson, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (clear error in anticipation finding eliminates sole basis for obviousness determination, “which therefore cannot stand.”).

The Examiner's misunderstandings aside, there are additional reasons for reversal of the obviousness rejections.

i. Group 1, Weighted Expanded Queries

None of the cited references discloses weighted expanded queries. In particular, all of the queries disclosed in Dharap and Miller are totally unweighted. Nor is there any suggestion, motivation or teaching to combine weighted expanded queries with the other features in the art of record.

Since an entire claim limitation is missing from the art of record, and since the Examiner cites no evidence supporting that the addition of such features would have been within the level of ordinary skill, the Group 1 obviousness rejections are in error.

ii. Group 2, Weighted Expanded Queries With Multiple Search Engines

In addition to the absence of weighted expanded queries (an independent basis for reversing the Group 2 obviousness rejections), none of the cited references discloses submitting an expanded query through multiple search engines. In particular, Miller discloses using multiple parallel threads of a computer program in the course of displaying candidate terms to a user for generating an expanded query, but in no way discloses processing an actual query through multiple search engines.

Since two entire claim limitations are missing from the art of record, and since the

Examiner cites no evidence supporting that the addition of such features would have been within the level of ordinary skill, the Group 2 obviousness rejections are in error.

iii. Group 3, Control Flags

None of the cited references discloses the use of control flags as claimed. In particular, Ryan filters objectionable terms so that they never reach a search engine. This bears no relation to flag signals which identify a condition of use of words in the generation of the expanded search request.

Since an entire claim limitation is missing from the art of record, and since the Examiner cites no evidence supporting that the addition of such features would have been within the level of ordinary skill, the Group 3 obviousness rejection is in error.

iv. There is no *Prima Facie* Obviousness

The Examiner was simply wrong in his technical assessment of the cited art. When viewed correctly, the cited art does not contain the claim limitations relied upon by the Examiner.

Nor is there any evidence supporting that such features would have been obvious to add. There must be ***objective evidence*** to support a *prima facie* obviousness rejection; unsupported assumptions of a motivation to combine will not do. See In re Dembiczak, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) (showing of a motivation to combine must be "clear and particular" and cannot rely on broad, conclusory statements); In re Lee, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002) ("The need for specificity pervades this authority."). As the Federal Circuit held:

In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal.

In re Dembiczak, 50 U.S.P.Q.2d at 1617. See also Interconnect Planning Corp. v. Feil, 227 U.S.P.Q. 543, 547 (Fed. Cir. 1985) (When determining obviousness, "[t]he invention must be viewed not with the blueprint drawn by the inventor, but in the state of

the art that existed at the time.").

F. Conclusion

The limitations of the claims are simply not disclosed, taught or suggested by the combinations cited by the Examiner. The Examiner has not supported his obviousness conclusions with any particularized findings or with evidence. Reversal of the rejections is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert Greenspoon', written over a horizontal line.

Robert Greenspoon
Reg. No. 40,004
Attorney for Applicants

Dated: December 29, 2003

NIRO, SCAVONE, HALLER & NIRO
181 West Madison Street, Suite 4600
Chicago, Illinois 60602
(312) 236-0733
(312) 236-3137 (facsimile)

INDEX FOR APPENDIX

Exhibit A	Pending Claims
Exhibit B	April 1, 2003 Final Rejection
Exhibit C	September 30, 2003 Notice of Appeal
Exhibit D	Dharap (U.S. Patent No. 6,256,633)
Exhibit E	Miller (U.S. Patent No. 5,926,811)
Exhibit F	Ginsberg, IEEE, Oct. 1994, pages 46-56
Exhibit G	Ryan (U.S. Patent No. 6,421,675)
Exhibit H	Specification